



Student Perceptions about Marijuana Use in the Construction Industry

Behnam Shadravan (Assistant Professor)

Dr. Behnam Shadravan is an assistant professor in the Construction Engineering Technology program at Florida A&M University. He is also an affiliate faculty in the civil and environmental engineering departments in FAMU-FSU college of engineering. He holds Civil Engineering degrees, including a bachelor's and master's from the Sharif University of Technology and a Ph.D. from the University of Ottawa, Canada. His background includes engineering, research, and teaching experience in Structural, Civil, Construction Materials and Methods, and Geotechnical Engineering. His engineering experience for large and small-scale projects includes large dams, bridges, and buildings. Some of his research expertise include sustainable construction, sustainability, and building resilience against natural disasters, e.g., Hurricanes, Earthquakes, and Floods. He also has some engineering education research.

Student Perceptions about Marijuana Use in the Construction Industry

Student Perceptions about Marijuana Use in the Construction Industry

Abstract

Construction students shape the next generation of construction managers and engineers. They occasionally work in the industry as an intern, or sometimes in other positions reflecting their experience in the industry. There is little research related to this matter in the literature.

An anonymous survey is followed to check the students' perception of the effects of the drug and compare it to the construction industry employees.

The survey clarifies the lack of associated knowledge and awareness in the job and university. Related safety training needs to be added for the students and other employees in the construction industry to avoid vulnerability. It is crucial in different levels and more critical in the lower ages and the student level to illuminate confusion. On the contrary, the employees need to know if and how some types of medical marijuana may be allowed.

The data collected in this study clearly show that students who may enter the field of construction are aware and/or engage in the use of marijuana. Thus, the industry should be mindful to address what may become a broader issue on which drugs are okay to use during the workday and whether it influences job site safety.

Keywords: education, Construction education, Construction Industry, Medical Marijuana, Marijuana

Introduction

This research aims to investigate the knowledge of the use of marijuana in the construction industry. For this research, the term "MEDICAL MARIJUANA" refers to a licensed or accredited physician recommended and supervised treatment plan, which includes medical marijuana to treat one or more specific health care conditions in Florida as legislation allows for the use of medical marijuana as part of a medical treatment plan.

Any other consumption of marijuana is considered as "NONMEDICAL MARIJUANA" even if it is used for medical reasons.

Marijuana abuse has been a concern in the construction industry due to safety and hard work. Florida has Legalized Medical Marijuana (MM); However, recreational or Nonmedical Marijuana (NM) is prohibited; the construction industry has high reputation in this matter. So, it is needed to check how this regulation affects the construction industry and how it can execute such that safety, manner, and efficiency do not disturb the industry.

Construction is a diverse Industry. Many workers in lower positions are from minorities. There is the expectation that workers with lower income and more challenging jobs, lower age, and lower positions will use more recreational marijuana. It is also significant to survey if the ethnicity, minority subgroups, and the past life of a person lead her/him to recreational marijuana and if the education or job position changes the use percentage. However, the use of medical marijuana may have different patterns, which need to be investigated. The effect of legalizing medical marijuana on job safety and conditions and its related survey is needed to be comprehended.

A project was planned to survey the rate of recreational and medical marijuana use in different ages, gender, ethnic minority subgroups, educational, and other life backgrounds in the construction industry and determine which sectors of the construction industry suffer more from medical and recreational marijuana.

An essential group in the industry is the university students in the construction field, as the next generation of construction managers and engineers. The anonymous online survey was followed to check the students' perception of the effects of the drug and compare that to the construction industry employees. This paper concentrates on the student survey results.

The research objective was to assess how joint medical and recreational marijuana is in the students and measure the effect of using recreational and medical marijuana on job efficiency and safety.

The data collected in this study enquires if the students in the construction field are aware and/or engage in the use of marijuana. The industry should be mindful to address what may become a broader issue on which recreational marijuana has an important effect on job site safety and the need for the knowledge of which type of medical marijuana may be approvable in the construction sites.

This project is part of a larger project about Medical Marijuana in the construction industry guided by the author.

Background

In the [United States](#), the use and possession of [Nonmedical Marijuana](#) are illegal under federal law for any purpose, using the [Controlled Substances Act of 1970](#) ([State-By-State Medical Marijuana Laws](#), 2016).

Florida is among thirty-six states which can legally use medical marijuana. Nevertheless, seventeen states have legalized marijuana for recreational use. The trend is such that marijuana consumption may be legalized in the USA in the future (["State Medical Marijuana Laws](#), 2018). The reasons can be summarized to be the justification by comparing alcohol, earning the related tax by the government, providing the excellent quality products, the related healthcare which could be controlled, and concentrating on prohibiting the use for the teenagers and illegal ages. Hartman (2017)

A survey showed that the primary use of Nonmedical Marijuana in the United States remains recreational (89.5 percent of adult Nonmedical Marijuana users), with only 10.5 percent reporting use solely for medical purposes and 36.1 percent reporting a mixed medical/recreational use ([Schauer et al., 2016](#)).

Schauer GL, King BA, Bunnell RE, Promoff G, McAfee TA. Toking, vaping and eating for health or fun: Marijuana use patterns. *American Journal of Preventive Medicine*. 2016;50(1):1–8. [[PubMed](#)]

In 2015, an estimated 8.3 percent of Americans 12 years of age or older reported using Nonmedical Marijuana. Nonmedical Marijuana use is most prevalent among young people ages

18 to 25 (19.8 percent using) ([CBHSQ, 2016a](#)). Interestingly, since 2002 the use of Nonmedical Marijuana has decreased among 12- to 17-year-olds, while it has markedly increased in the senior population, those over 55 years ([Azofeifa et al., 2016](#)).

Males are nearly twice as likely (10.6 percent) to use Nonmedical Marijuana as females (6.2 percent). Black Americans use Nonmedical Marijuana at the highest rate among major ethnic groups (10.7 percent), followed by whites (8.4 percent) and Hispanics (7.2 percent) ([CBHSQ, 2016b](#)). Use is also more common among lower-income Americans and those without college degrees ([Davenport and Caulkins, 2016](#)).

University students and younger people have more interest in recreational marijuana and hold less knowledge among different ages and jobs. Two independent research resulted that 60% to 75% of the students tried recreational marijuana in their lives. More than 50% used it last year and 30% last year. Compared to females, males reported about 10% more use. Problem marijuana use was positively associated with a range of motives—of note—motives focused on coping, boredom, alcohol, and food. (Allen and Holder, 2014 and [Phillips et al. 2017](#))

The results of the survey questionnaires can help gather a consensus about particular subjects regarding construction education (Love, Haynes, and Irani, 2001).

Hoffmann and Larizson (1999) reported an increased relative likelihood for a work-related accident in the year 1998 for those who had used marijuana for 1-2 days in the past year (1.51), but not those who had used marijuana for 3-51 days (0.98), or weekly for the past year (1.01). That also needs to be investigated in the construction industry.

More than 16% of people in construction/extraction admit to currently using Marijuana (ACSH, 2018).

There is a lack of knowledge about the future generation of engineers or students about Marijuana use and the depth of the training they need in this matter. This paper investigates it.

The research objective was to assess how joint medical and recreational marijuana is in the students and measure the effect of using recreational and medical marijuana on job efficiency and safety.

Methodology

A survey is planned to (1) Assess how common is medical and recreational marijuana in different positions, including workers, superintendents, technicians, engineers, and managers; (2) measure the effect of using recreational and medical marijuana on job efficiency and safety; (3) evaluate the rate of the recreational and medical marijuana use in different ages, gender and ethnic minority subgroups, and educational, and other life backgrounds (4) check if the legal, medical marijuana results in punishment or additional problems from the employees in the construction industry (5) determine which sectors of the construction industry suffers more from medical and recreational marijuana.

The original research aimed to provide a survey questionnaire for the students and the employees in the construction sites in several sites in Florida. The plan was to seek the approval of the

construction site managers to distribute and explain the questionnaires among their employees. Covid-19 changed the plan. After trying several unsuccessful calls and online communication methods with the construction managers and employers, it became clear that they did not like their entire crew to answer the questionnaires. So the plan changed to provide an Anonymous Qualtrics survey questionnaire and distribute it to the students and others in the industry. LinkedIn was a successful platform. This paper aims to respond to construction-related students. The results data and questionnaire discussion are provided in the following sections.

General Information

Thirty construction students participated from different universities in Florida. Twenty-seven full-time and three part-time College or University Construction Students filled the survey. Seven of them were female, and 23 were male. The results were limited but still noticeable.

Table 1. Enrolment and gender of the student participants

Enrolment	Number	Gender	Number
Fulltime	27	Female	7
Part-time	3	Male	23

Their age range and educational background are demonstrated in tables 1 and 2. As expected, 80% of the participants' age range is between 18 and 25. They all reside in Florida. Eight of them have worked in the construction industry. 90% of them are undergraduate students. The respondents provided reasons such as staying focused and calm, operating efficiently, coping with anxiety, controlling stress and pain and particularly problematic, depression, and eating when hungry.

Table 2. The age range of the surveyed construction students

Age Range	Number
18-21	10
22-25	14
26-30	2
31-35	2
36-40	1
41-45	1

Table 3. Closest Education Degree of the surveyed construction students

Education	Number
High School Diploma	4
College Associate	11
Bachelors	12
Masters	2
Doctorate	1

Eleven of the students used a type of marijuana before, and 14 were not used. Five of the students used MM, and 5 NM, and one of them used both MM and NM. 6 students did not answer this question, and 14 students have not used any marijuana.

Table 4. Marijuana Usage Experience

Type	Used
Medical Marijuana (MM)	5
Nonmedical Marijuana	5
Both	1
Not Used	14
No Answer	5

Table 5. Opinion about Legalizing Marijuana

Legalizing	Agree
Just Medical Marijuana	5
Both MM and NM	18
NONE of MM and NM	2
No Answer	6

Five participant students believe just MM should be legal. Eighteen students believe any type of marijuana needs to be legalized. Just two students believe any type of marijuana is not to be legal.

The reasons for Medical Marijuana being legal

Fifteen students provided reasons for marijuana being legal. The responses reflect how they think.

Table 6. Student's responses about legalizing medical marijuana are listed below

Everyone uses it, and it is legal in other states.
--

The USA economy would flourish and generate income in this market, so we could use the income from marijuana sales to decrease the USA debt.
For medical purposes and to eliminate drinking habit
The war on drugs was a bogus mission from the start. Additionally, the benefits of marijuana are needed more prominently in areas where medical aid, diagnosis, etc., are not likely affordable.
People are still going to do it instead if it's legal or not
It increases focus, productivity, and attention span.
It is a natural herb that God created.
Many people already use weed and are completely functional.
It does not hurt anybody
Too many people die or go either go to jail over something that simple be grown from the grounds of earth.
Improves productivity, worker focus, and employee participation. Workers should not have to be afraid of seeking medical attention when hurt simply because they have used marijuana.
It helps to calm down after a long hot day.
The government should not say what to do with a plant unless people are using that plant to commit harm to others. Marijuana does not kill anybody the power the government has withdrawn the plant is the ability to capitalize with pharmaceutical companies and causing detriment to many in society, especially for the black community when it comes to the police brutalizing black men and putting them in jail for marijuana possession when people have been using it for years including American science, the privileged rich with no consequences.
It is becoming more legalized in other states. As well as have many health benefits it.
Although two student correspondents believe that any type of marijuana should not be legalized, they have not provided reasons.

Table 7. The students' reason for legalizing nonmedical marijuana? And limits" (All Responses:+)

There should be a limit because too much of anything is bad for you.
There should be limits on the intake while on the job. Employees should be allowed to have a 30 percent intake on the job. This would be best for safety and productivity.
Up to 3.5 grams is permissible while on the job.
Limits should be applied because someone needs to be fully functional when on the job site.
The exact limits that currently legalize marijuana states have.
The usage limits marijuana should have the only usage for people 21 or older, and dispensaries should only sell marijuana to qualified people.
Amount of dosage and what you are using under usage.
Must be ingested at your residence. This prevents operating (heavy) machinery.

I think it should be legal. I don't think you should have a limit on how much to smoke.
it should only be used to relax.
There should be a limit because too much of anything is bad for you.
there should be limits on the intake think it should be legal. I don't think you should have a limit on how much to smoke.
it should only be used to relax.

Table 8. Reasons provided by the students for using marijuana are listed below.

<i>Medical</i>
Two students stated their reason for using MM as Insomnia and Stress. Other reasons for the use of medical marijuana include assistance to the strength of senior people and improving and helping fight symptoms of various illnesses and diseases because it helps people every day.
Staying focused and calm, operate efficiently, cope with anxiety, control stress and pain and particularly problematic depression and eating when hungry
<i>Nonmedical</i>
The respondents who use NM provided reasons such as staying focused and calm, operating efficiently, cope anxiety, controlling stress and pain and particularly problematic, Depression, and eating when hungry.

Table 9. Are you still using marijuana? (Responses)

Using last month	
Yes, Medical	1
Yes, Nonmedical	5
No, Nonmedical	12
No answer	12

Table 10. Why are you not using marijuana last month if you used it before? (Responses)

no current need
Looking for jobs
I do not feel the need to anymore
Cleanse
Because I am trying to get a job

Table 11. What was your reason for using marijuana? Medical Marijuana? (Responses)

Insomnia
Anxiety and stress
Focus
Stress, sleeping, back pain

Table 12. What was your reason for using Nonmedical Marijuana? (Responses)

Aches and relaxation
Stress, recreational, and anxiety
Focus
For fun
Makes me feel good
To deal with the pain and distress
ADHD

Table 13. If you believe that you use Nonmedical Marijuana for medical reasons, provide the reason why you do not follow the legal procedure to be recommended, and purchase Medical Marijuana. (Responses)

Expensive and hassle of the process formed card.
Non-affordable health care as well as apprehension for future jobs
I feel having a medical marijuana card will lead employers to believe I am not a worthy candidate if I tell them. Secondly, I will be unnecessarily drug tested. Lastly, medical Marijuana' is expensive and monitors your monthly usage, not allowing you to exceed the legal threshold.
Sometimes it is harder to access medical marijuana facilities.
Do not use for such.
Period Cramps

Table 14. Do you think marijuana has affected your job efficiency or other job-related aspects? (Responses)

Choices	#
Medical Marijuana is positive and helps with the fulfillment of my job duties.	5
Medical Marijuana is negative with the fulfillment of my job duties.	0
Nonmedical marijuana is positive and helps with the fulfillment of my job duties.	3
Nonmedical marijuana is negative with the fulfillment of my job duties.	1
blank	12

Table 15. Medical Marijuana is positive and helps with the fulfillment of my job duties. (Responses)

More focused on the job and willingness to get things done on time and in good qual
Anxiety and insomnia

Table 16. Nonmedical marijuana is positive and helps with the fulfillment of my job duties (Responses)

nothing
You can be terminated.
Better performance, desire to work, and greater attention to safety hazards.
Overall morale boosts
better productivity.

Table 17. Nonmedical marijuana is negative with the fulfillment of my job duties. Medical or Nonmedical? (Responses)

you cannot focus
You can be terminated.
Slower productivity, sometimes hard to focus

Table 18. Overall, please rate how was your job performance affected using Medical Marijuana.

Group	No.	Range
detractor	6	0-5 Out of 10
passive	4	7-8 Out of 10
promoter	8	9-10 Out of 10

Table 19. Overall, please rate how was your job performance affected using Medical Marijuana.

Group	No.	Range
detractor	6	0-5 Out of 10
passive	5	7-8 Out of 10
promoter	8	9-10 Out of 10

Table 20. Do you think marijuana has affected your personal life? Choose one or two choices that you agree with (response)

Group	No	Range
	.	
Medical Marijuana is positive and helps with the fulfillment of my job duties.	1	8 Out of 10
Medical Marijuana is harmful with the fulfillment of my job duties.	0	0
Nonmedical marijuana is positive and helps with the fulfillment of my job duties.	8	9-10 Out of 10
Nonmedical marijuana is negative with the fulfillment of my job duties.	10	0-5 Out of 10

Other responses that explain the reasons:

Medical Marijuana is positive and helps with the fulfillment of my job duties. It helps with relaxation and is good for going to sleep.

Mediation and ability to sleep.

Table 21. Nonmedical marijuana is positive and helps with the fulfillment of my job duties.

less painful experiences
It increases the ability to socialize and network, leading to increased opportunities and learning outcomes.
It just makes you calmer in stressful situations.
Communication
has made a positive imp
nothing bad happened
it distresses me
Helps keep my mind level no overthinking
Honestly, has me become more confident and relaxed about my thoughts. Helps me become more social

Table 22. Overall, please rate how was your personal life affected using Nonmedical Marijuana.
- Group

detractor	5	0-5 Outof 10
passive	2	8 Outof 10
promoter	7	9-10 Outof 10

Table 23. Do you believe that marijuana is an addicting drug?

Yes, Nonmedical	0
Yes, Medical and Nonmedical	6
No	16

Table 24. In your opinion, are there construction jobs that is safe to use marijuana? List them?

<i>No:</i>
Nonfield positions
not while working but in their free time
<i>yes:</i>
A lot, equipment operator, construction engineer, superintendent.
Yes, people who design on the computer. All, as long as you don't do it before you go to work, it will be fine.

Table 25. Based on your experience, how long after the use of marijuana do you think it is safe to work: Selected Choice Your job

The next day
3 days
3 days
1hr
2 hours
for the jobs that you considered not safe after using marijuana (hrs) 1hr

Table 26. Does your employer know if you use Medical Marijuana?

Yes	1
No	6

Table 27. Does your employer/firm allow you to use Medical Marijuana if he/she is informed about your Medical Marijuana prescription?

Yes	0
No	11
Not Sure	8

Table 28. Medical Marijuana is not legal based on federal law. Did you have or feel any problem regarding applying the federal legislation about medical marijuana in your construction place? Please describe.

Yes	2	It causes users to not report the injury.
No	7	let the people use it

Table 29. Do you purchase medical marijuana in a legal way?

Yes	2
No. Why?	4

The reason responds for answer “No” are listed below

I have a friend who purchases it from a dispensary, but I never have.

If it were legal would not have to do it. Dispensary store should be open for 21 and up people just like tobacco store.

Table 30. Did you purchase the entire prescribed Medical Marijuana from legal sources? (Responses

Yes	2
No	3

Additional student comments

Marijuana being frowned upon in construction is the primary reason we do not look for management roles on the job site. This is sad because I enjoy constructing Sustainable Facilities.

Discussion of the Results

The data collected in this study clearly show that students who may enter this field are aware and/or engage in the use of marijuana. Students who may enter this field are aware and/or engage in the use of marijuana. Thus, the industry should be mindful to address what may become a broader issue on which drugs are okay to use during the workday and whether it influences job site safety.

The problem is that the student participants mostly answered wrong about all kinds of marijuana, not medical marijuana. The reason is that most of those students who use recreational marijuana did not completely understand the difference and convinced themselves that they have a medical need for marijuana, so they prescribed themselves the drug.

Obviously, the responses are not scientific and can be wrong in several of them, but it is worth observing the mindset of the young generation.

Other young age construction employees who are not students have similar ideas.

The difference between this age group and students with the other ages and construction jobs is evident here as opposing marijuana was more common in older employees, notably higher management positions.

When the employee or the student does not believe that a drug may be risky for the job safety, they may pretend just for the time of the hiring, but that does not mean they will follow the rules, and it can be problematic.

The confusion of the meaning and legality of medical and nonmedical marijuana, as of the conflict roots to different federal and state legislation, results in unacceptable stressful conditions for those who need to use medical marijuana.

Those with the legally prescribed Medical Marijuana should be informed about the types and limits of the use of it, and the times of use, such that their job will provide a safe condition for the individual and his colleagues and the job place

Conclusion

The lack of knowledge and awareness necessitates training in the job and university from the low ages for students and others involved in the construction industry.

This matter needs to be considered in the education and training about the drug as the younger generation are more liberal about the use of marijuana even when work safety is as important as construction.

The research provided the students' replies to some of the questions of the long questionnaire survey. The results show that the students have not had a good education. Particularly, they are not familiar with the safety risks related to the usage of recreational marijuana and its possible disastrous concerns.

Some of them hide their usage from their employer. Others do not believe in the restrictions but just follow the rules in the job place.

This is a warning to the education and training system in the universities and construction firms to consider marijuana training in the safety courses and licenses.

Acknowledgement

The researcher would like to acknowledge the Florida A&M University Medical Marijuana Education and Research Initiative (FAMU MMERI) and the Florida Department of Health for their support of this project.

References

- Davenport S, Caulkins JP. Evolution of the United States marijuana market in the decade of liberalization before full legalization. *Journal of Drug Issues*. 2016;46(4):411–427.
- Kristina T. Phillips, [Trent L. Lalonde](#), [Michael M. Phillips](#), [Maryia M. Schneider](#) (2017)
- Marijuana use and associated motives in Colorado university students.
- Allen, J., Holder, M.D. Marijuana Use and Well-Being in University Students. *J Happiness Stud* 15, 301–321 (2014). <https://doi.org/10.1007/s10902-013-9423->
- Azofeifa A, Mattson ME, Schauer G, McAfee T, Grant A, Lyerla R. National estimates of marijuana use and related indicators—National Survey on Drug Use and Health, United States, 2002-2014. *Morbidity and Mortality Weekly Report*. 2016;65(SS-11):1–25.
- CBHSQ (2016a). Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2016a. [January 9, 2017]. <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.pdf>.
- CBHSQ (2016b). (2015 National Survey on Drug Use and Health: Detailed tables. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2016b. [December 27, 2016]. <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.pdf>.
- Michael Hartman (2017) "[Marijuana Overview](#) ."National Conference of State Legislatures. October 17, 2019. Retrieved December 31, 2017.
- [State-By-State Medical Marijuana Laws](#) (2016), Marijuana Policy Project, December <https://www.mpp.org/issues/medical-marijuana/state-by-state-medical-marijuana-laws/state-by-state-medical-marijuana-laws-report/>
- "[State Medical Marijuana Laws](#)"(2018). [National Conference of State Legislatures](#). 2021. Retrieved July 3, 2018.
- American Journal of Addiction, November 10, 2017
- <https://doi.org/10.1111/ajad.12640>

- [Love, P.E.D., Haynes, N.S. and Irani, Z.](#) (2001), "Construction managers' expectations and observations of graduates", *Journal of Managerial Psychology*, Vol. 16 No. 8, pp. 579-593. <https://doi.org/10.1108/EUM0000000006301>
- [Alex Berezow,](#)— *April 12, 2018*, Which Professions Smoke The Most Pot?
- American Council in Science and health
- <https://www.acsh.org/news/2018/04/12/which-professions-smoke-most-pot-12834>
- Hoffmann J, Larison C. Drug use, workplace accidents, and employee turnover. *J Drug Issues* 1999; 29: 341-364aA